

# **EXHIBIT 1**



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**VIA ELECTRONIC MAIL**

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Re: *Singular Computing LLC v. Google LLC*, 1:19-cv-12551-FDS (D. Mass.)

Dear Paul:

I write to request a meet-and-confer about Singular's infringement contentions, which fail to comport with the local rules and the Court's scheduling order. In particular, Singular has failed to identify specifically where and how claim elements appear in the accused products, instead relying on pasted images and vague language that discloses little about Singular's infringement theories.

As an example, in the '156 patent claim chart, Singular neglected to address how Google purportedly meets the first limitation of Claim 7. Instead, Singular merely pasted three Google images into its infringement evidence, without elaboration or explanation as to how that evidence purportedly maps to the limitation. *See* Ex. A at 6-7. In doing so, Singular has left Google to guess Singular's theory as to how Google's accused TPUs meet the limitation's elements, including (1) "one first low precision high-dynamic range (LPHDR) execution unit," (2) "a first input signal representing a first numerical value," and (3) "a first output signal representing a second numerical value." *Id.* Singular must state what structure in the accused TPU it contends corresponds to these specific elements so that Google can know Singular's theory, and then identify the specific supporting evidence for that identification. Simply pasting images into a chart does not satisfy that requirement.

In the same chart, Singular failed to disclose whether it contends that the "Vector Processing Unit (VPU)" qualifies as "at least one of a central processing unit (CPU), a graphics processing unit (GPU), a field programmable gate array (FPGA), a microcode-based processor, a hardware sequencer, [or] a state machine," as required by the limitation. *See id.* at 11. Again, Singular's reliance on reproduced text and images without explanation is insufficient to disclose its theory. At minimum, Singular must identify which among this list is alleged to be the claimed "controller."

September 11, 2020

Page 2

These examples illustrate Singular's failure to comply with the local rules, which require that infringement claim charts identify with "as much specificity as reasonably possible" information including an "***element-by-element*** description of ***where*** and ***how*** each element of each asserted claim is found in each accused product or method." L.R. 16.6(d)(1)(A)(iii) (emphasis added); *see also Shared Memory Graphics LLC v. Apple, Inc.*, 812 F. Supp. 2d 1022, 1025 (N.D. Cal. 2010) (explaining that under a similar local rule plaintiff "must map specific elements of Defendants' alleged infringing products onto the Plaintiff's claim construction"). Singular knew it was obligated to provide this information to Google as the cover document to its infringement contentions describes the accompanying claim charts as providing "an element-by-element description of where and how each element" of an asserted claim is found in the Accused Products. Despite Singular's characterization of its claim charts, they fail to provide the very analysis Singular concedes it was obligated to provide.

Additionally, throughout its contentions, Singular refers to a test it conducted that purportedly shows "that for more than 10% of the possible valid inputs, the numerical value represented by the output signal of each MXU multiplier differs by more than 0.2% from the result of an exact mathematical calculation performed on the same inputs." Ex. A at 9. *See also* Ex. B at 9; Ex. C at 19, 28. Singular should have produced the underlying documentation with its contentions. Under the Court's scheduling order, Singular was required to "produce ***all documents supporting its contentions*** and/or identify any such supporting documents produced by accused infringer." *See* ECF 59 at 1(c) (emphasis added). But Singular has not done so; its production accompanying the infringement contentions only contains copies of the patents, file histories, and assignment documents.

These deficiencies impede Google's ability to prepare its defenses, and specifically, the non-infringement contentions it must serve on November 6<sup>th</sup>. Accordingly, please confirm that Singular will supplement its infringement contentions and produce the referenced documents by September 18<sup>th</sup>. If Singular is unwilling to do so, please be prepared to discuss these issues on Wednesday, September 16<sup>th</sup> at 2 pm ET.

Finally, Singular's infringement contentions have reduced the number of asserted claims in the case from the seventeen identified in the amended complaint down to four. As the number and identity of asserted claims unquestionably impacts the orderly progress of discovery in this case, please confirm that Singular will neither (a) re-assert the claims originally asserted in its amended complaint, nor (b) assert additional claims beyond those identified in the infringement contentions.

Sincerely,



Matthias A. Kamber